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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,405	02/28/2002	Dominik Hartmann	ESEC-P149US	1323

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EXAMINER

TRINH, MINH N

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/086,405	Applicant(s) HARTMANN ET AL.	
	Examiner Minh Trinh	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/28, 6/25/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-20 are objected to because of the following informalities:
 - a) "Apparatus" (claims 2-20, line 1) should be changed to: --The apparatus--, to reflect the dependent claim formats.
 - b) The second occurrence of term: "comprising" (claim 1, line 6) is confusing and should be deleted because the phrase following this term is directed to the apparatus as recited in line 1 of claim 1.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 2, 4, 6, 8, 10, 12, 13- 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Following are examples:
 - a) The limitation recites, " the support bracket can be turned . . . "(claim 2, line 3) is not positive limitation. It is not known whether the support bracket is actually turned.
 - b) Claims 13-20, lines 2-3, the phrase: " the semiconductor chips" lack proper antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al (5,839,187).

Sato et al disclose the apparatus for placing a chip on a substrate of the present invention comprising; a flip device 50 for flipping the semiconductor chip, the flip device being formed as a parallelogram construction consisting of a support bracket, a first and second swivel arm and a connecting arm having a chip gripper thereon (see Fig. 1 of Sato et al, which depicts a parallel construction having support bracket 1a, a first and second swivel arm 22, 23 and a connecting arm 49 having a chip gripper 73 (nozzle) thereon (see Figs. 1-2); a drive system MY2 for the back and forth movement of the parallel construction 26 between a first limit position and a second limit position where the chip gripper places the semiconductor chip on the substrate (see the details of Fig. 2). Note that the term "swivel" being defined in the American Heritage Dictionary (Third Edition, 1992) as "a link", therefore reference 22 and 23 are satisfied the definition as described above. Further, with respect to the limitation recites: "a drive system for the back and forth movement of the parallelogram construction . . . on the substrate" (see claim 1, lines 7-11) is intended use limitation since the prior art discloses substantially every structural limitations therefore it is capable of performing the functionally intended use as described above.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13 and 14, as best understood are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al.

As applied to claims 13-14, It would have been an obvious matter of design choice to form die bonder including pick and place machine for picks the semiconductor chips from a wafer table and delivers them to the flip device since applicant has not disclosed that these features are critical, patentably distinguishing features and it appears that the invention would perform equally well with the mounting apparatus as disclosed by each of the prior art reference (see Sato's Figs. 1-2 or Schindler's Fig. 1).

8. Claim 2 as best understood is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al in view of Schindler (6,185,815).

Sato et al as applied above is silent in regarding the parallelogram construction is arranged on a slide movable in a vertical direction so that the support bracket can be turned in relation to the slide on a vertical rotational axis. Schindler teaches the above configurations (see Fig. 2, shows the parallelogram construction 10 and 12 being arranged in vertical so that the support bracket can be turned in relation to the slide on a

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vertical rotational axis). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the Schindler teaching as described above into the structure invention of Sato et al in order to form a desired structure having the configuration as described above.

Allowable Subject Matter

9. Claims 3-12 and 15-20 would be allowable if rewritten to overcome the objection and the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: That the prior art does not teach or fairly suggest the limitations recite in the above claims. Especially the limitations of claims 3-6 in combination with other limitations as recited in the present application claims are not taught or suggested by the prior art.

Prior Art References

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art references are cited for their teaching of apparatus for mounting flip chip.

Conclusion

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Trinh whose telephone number is (703) 305-2887.

The examiner can normally be reached on Monday -Thursday 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Minh Trinh 7/7/04
Patent Examiner Group 3729

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